FINAL
Application for Renewal of Class IIIb Industrial Landfill

Questar Exploration and Production Company
Uintah Basin Division
11002 East 17500 South
Vernal, Utah 84078-8523

RECEIVED
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UTAH DIVISION OF
SOLID & HAZARDOUS WASTE

RED WASH LANDFILL

Section 16, T7S, R23E
Uintah County, Utah

January 17, 2005

1.0 INTRODUCTION

Questar Exploration and Production Company (Questar) proposes to permit and operate a Class IIIb private industrial landfill at their Red Wash production facility, which is located approximately 20 miles southeast of Vernal, Utah. The proposed landfill will be designed, constructed and operated in accordance with all Federal and State laws and regulations applicable to the management and operation of landfill sites. This includes, but is not limited to, the Rules of the Utah Solid Waste Disposal Act and Subtitle D of the Resource Conservation and Recovery Act.

Questar proposes to construct and operate the landfill at the location indicated in Figure 1, Location Map. The site will be located within Section 16 of Township 7 South, Range 23 East, SLBM, approximately 20 miles southeast of Vernal, Utah.

1.1 GENERAL INFORMATION

1.1.1 Name of Facility

Questar Red Wash Class IIIb Landfill.

1.1.2 Site Location

Within the southwest ¼ of the southeast ¼ of Section 16, Township 7 South, Range 23 East, Salt Lake Base and Meridian, about 20 miles southeast of Vernal, Utah. The site is located on Deadman Bench just south of Walker Hollow. The latitude and longitude coordinates of the front gate are:

Latitude:	40° 12' 12"
Longitude:	109° 19' 40"

1.1.3 Facility Owner

Questar Exploration and Production Company.

1.1.4 Facility Operator

Questar Exploration and Production Company.

1.1.5 Contact Person

Robert Zeller
Questar Exploration and Production Company
11002 East 17500 South
Vernal, UT 84078
(435) 781-4302

1.1.6 Type of Application

Class IIIb Industrial Landfill (private); renewal application.

1.1.7 Property Ownership

Questar owns Section 16, Township 7 South, Range 23 East. Proof of ownership is included in Appendix E.

1.1.8 Certification of Submitted Information

Dale Larsen (Name of Official) — District Production Superintendent (Title)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Dale Larsen, Date 1-18-05.

State of Utah)
) ss.
County of Uintah)

SUBSCRIBED AND SWORN to before me this 18th day of January, 2005.

Jan Nelson

My commission expires: June 2, 2008

Notary Public in and for: Uintah County, Utah

Notary Public
JAN NELSON
78 South 1250 West
Vernal, Utah 84078
My Commission Expires
June 02, 2008

1.2 GENERAL DESCRIPTION OF FACILITY

The proposed landfill will receive industrial waste debris from Questar's [illegible] operations in Utah. The landfill is to be located on property that Questar purchased from the State of Utah

Trust Lands Administration; Questar has acquired all of Section 16, Township 7 South, Range 23 East. The proof of ownership is included in Appendix E. The site is situated on Deadman Bench, directly south of Walker Hollow and east of Questar's oil well designated RW-260. The area of the new landfill site is generally flat (see Sheet 2), with silty sandy soil and vegetated with sagebrush, grass and cactus.

The area is arid, with an average annual precipitation measured at Vernal of 8.16 inches (Ashcroft, 1992). The land use zoning of properties adjacent to the landfill boundary is designated as agricultural.

The landfill will consist of three trench-fill cells occupying approximately 0.83 acres (see Sheet 3). The landfill site will be surrounded by 6-foot high chain link fence with a locking gate. Existing oilfield access roads enter the site from both the East and the West, passing through the southeast section corner of Section 16.

1.3 LEGAL DESCRIPTION

Questar's property consists of Section 16, Township 7 South, Range 23 East. The immediate area of the landfill was surveyed in May 1999 to establish a topographic map with 2-foot contours (see Sheet 2). Because Questar owns the entire Section 16, the property corners were not surveyed; however, the basis of bearing of the landfill location was the south quarter corner of said section, at which point a brass cap was located.

The approximate description of the proposed fence line of the landfill is as follows:

> *Beginning at a point in the SW ¼ SE ¼ of Section 16, T7S, R23E, SLB&M which bears N 72° 15' E 998.42' from the south ¼ corner of said Section 16, thence N 0° E 260'; thence N 90° E 155'; thence S 0° W 260.'; thence S 90° W 155' to the point of beginning; containing approximately 0.93 acres more or less.*

1.4 LAND USE AND ZONING

The land surrounding the proposed landfill is part of Questar's Red Wash oil field. Numerous operating oil wells are in the area. The land is zoned for agriculture.

1.5 TYPE OF WASTE AND AREA SERVED BY FACILITY

The landfill will be used solely for the disposal of minor amounts of industrial waste from Questar's production operations in Utah. The site will be fenced and will have a locked gate to prevent unauthorized access; however, even without these safeguards, the remoteness of the facility generally precludes access by the general public. Expected waste generally includes, but is not limited to wood scraps, pipe material, fiberglass insulation, and general construction/demolition debris characteristic with the operation of the facility. The landfill will not receive municipal type waste from the office facility. It is anticipated that the landfill will receive approximately 50 cubic yards of waste per annum.

2.0 PLAN OF OPERATION

2.1 SCHEDULE OF CONSTRUCTION

Construction of the landfill will be initiated immediately following receipt of approval from the Division of Solid and Hazardous Waste (DSHW). The landfill will be constructed in phases, starting with the eastern trench shown in Sheet 3. Approximately 50 feet of trench, starting from the north end, will be prepared initially. Construction of this is expected to require only one week to complete. Depending upon the review by the DSHW, it is hopeful that waste may be placed within the trench as early as mid-September 1999, since the former existing landfill at the site has been closed.

Prior to excavation of the trenches, the entire site will be graded in order to remove mounds, fill depressions, and prepare the general area (see Sheet 4). The trenches will be excavated into the silty sandy native soil with a backhoe and/or bulldozer. The depth of the trenches ranges from 5 to 8 feet deep (see Sheet 5), with sides maintained at a slope of 2:1, which is considered stable.

A ramp with a slope of approximately 10% will be constructed at the south end of the active trench for access into the trench. As the active portion of the trench becomes full, the excavation of the trench will proceed to the south, with the excavated material being used for cover of the waste. The access ramp will also progress to the south.

2.2 ON-SITE WASTE HANDLING PROCEDURES

Waste is expected to be placed in the pit infrequently (about every 2-3 months). Generally a range of available vehicles, from pickup trucks to 2-ton trucks, are used to transport the waste from the area in which it is generated to the landfill trench. The waste is then unloaded by hand.

The gate to the landfill will be kept locked at all times that the landfill is not in operation. The gate will be opened only when waste is deposited in the active landfill trench, or if maintenance is required. Only Questar personnel will have keys to the gate lock.

A waiver is requested from the daily cover requirement [R315-303-4(4)(b)] for the following reasons:

- The landfill accepts only waste generated on site. No municipal waste (or municipal-type waste) is placed in the landfill. Waste will include general construction/demolition-type waste, including wood scraps, insulation, and pipe scraps; and metal scraps. No paper or other potentially wind-blown waste is expected to be deposited in the landfill.
- Waste is deposited in the landfill very infrequently.
- No equipment is dedicated to the landfill; waste is taken to the landfill in available vehicles. Equipment must be transferred to the landfill in order to cover the waste, which will be done periodically. It is proposed to cover the waste once a month if waste is disposed of frequently. Otherwise, the waste will be covered within 1 week of disposal (typically every 2-3 months).

2.3 CONTINGENCY PLANS

Due to the nature of the facility as an oil field, employees are trained in emergency procedures in the event of a fire. At a minimum, each vehicle carries a fire extinguisher, which will be used in the event of a small fire. Soil from the trench excavation is stockpiled at the trench location, and will be used as emergency cover in the event of a larger fire.

Groundwater is extremely deep in the area of the landfill. The oil wells at the site extend several thousand feet deep, and it is reported that no appreciable groundwater zones were encountered during the drilling (well RW-260 is located approximately 300 feet from the landfill trench). It has been therefore concluded that groundwater is at least a thousand feet deep and the potential impacts to groundwater are insignificant.

Drainage structures will be in place to ensure surface waters are not impacted (see Section 3.2). The small amount of precipitation that falls within the footprint of the trench will be collected in the trench, where it will evaporate or infiltrate in the underlying soils.

The facility has many miles of dirt roads already in use at the site and fugitive dust has not been considered a problem with these roads. Therefore, it is not anticipated that the construction or use of the landfill will cause fugitive dust problems. Additionally, there are no residences within many miles of the facility.

No equipment will be installed at the landfill requiring maintenance. Waste deposited in the landfill is generated solely at the facility. No hazardous or PCB containing waste is placed in the landfill. Because of the inert nature of the waste, no disease vectors are expected.

Because the waste is deposited into the landfill so infrequently, no alternative waste-handling plan is in place. If any event prevents the placement of waste in the landfill for a few days, the disposal will simply be postponed for that period of time.

Employees of the facility receive general safety training. Each employee who works with solid waste at the landfill will be trained and have a working knowledge of basic maintenance and operational techniques necessary to operate and maintain the facility in a manner which does not endanger human health and safety or environmental quality, including emergency response and contingency plan implementation. Training will be accomplished through on-the-job training. In particular, personnel involved in the operation of the landfill receive specific training on site regarding waste identification, waste placement, cover, and maintenance of run-off collection systems.

2.4 REQUIREMENTS OF R315-304

The proposed landfill will meet the requirements of R315-304 as follows:

2.4.1 Standards for Performance

The following standards for performance as listed in R315-303-2 shall be met:

- Groundwater at the site is very deep (greater than 1000 feet), therefore no impact to groundwater by the landfill is expected;
- No explosive gas will be generated by the material disposed in the landfill due to the nature of the waste (low levels of organics); and
- No impact to surface water will occur as a result of the landfill operation. The nearest perennial surface water is the Green River located approximately 8 miles away. Only intermittent drainages are located within Walker Hollow to the north. No runoff from the landfill trench will occur. Run-on shall be diverted around the landfill trench.

2.4.2 Location Standards

The site meets the following location standards:

- The landfill site is not located in any floodplain;
- The landfill site is not located in any wetlands; and
- The lowest level of the waste is at least five feet above the historic high level of groundwater.

2.4.3 Industrial landfill Requirements

Operation plan requirements (R315-302-2) have been addressed within Sections 2.1 through 2.3. Waste consists of material generated on site and is expected to be placed in the landfill infrequently. It will be disposed of in the landfill by a range of available vehicles, from pickup trucks to 2-ton trucks.

No groundwater monitoring is to be performed at the site as per R315-304-5(4)(c).

In accordance with R315-305-4(7), Questar has recorded the landfill with Uintah County. Questar will meet the requirements of R315-305-5(2) by constructing a fence with locked gate around the landfill facility. The gate will remain locked at all times except when waste is being placed in the landfill.

A closure plan is provided in Section 4.0. Closure requirements of Subsection R315-305-5(5)(b) shall be met. Financial assurance for the closure is outlined in Section 4.6.

2.4.4 Record Keeping/Reporting

Questar will keep a record of day-to-day operations and quarterly inspections in an Operating Record. They will also submit an Annual Report, which summarizes facility activities during the previous year. The Annual Report will be submitted to the Executive Secretary and will also be kept as part of the Operating Record. Details are provided below.

<u>Operating Record</u>

Questar shall keep an Operating Record, which summarizes day-to-day activities. The operating record will be a collection of forms and observations of landfill activities and will be kept at the

Red Wash offices (located about 1 mile from the landfill). Information recorded will include the following, at a minimum:

a) date of waste disposal and number and type of vehicles (e.g., October 17, 1999 – 2 pickup trucks);
b) volume and type of waste placed (e.g., about ½ cubic yard of wood debris);
c) results of quarterly inspections; and
d) any problems noted with the landfill operation or performance.

The information required in items (a) and (b) above will be noted on a *Waste Data Gathering Sheet*, currently used by Questar, each time waste is placed in the cell. These forms are provided in Appendix D. To facilitate completion of this form, blank copies will be kept on-site at the landfill (preferably in a weatherproof box) and filled out each time waste is placed in the cell. These forms will be kept as part of the Operating Record. Because of the infrequency of disposal and the fact that no weigh scales are readily available near the landfill site, it is requested that the record keeping requirements pertaining to recording weights be waived; estimated volumes will be recorded instead.

Questar personnel shall also inspect the landfill quarterly (prior to closure) to assess the condition of the access road, trench slopes, fence, gate, and drainage swales/berms. A copy of a *Quarterly Inspection Form* is provided in Appendix D. The inspection results shall be kept as part of the Operating Record for at least 3 years after the inspection is performed. Post-closure inspections are covered in Section 5.0.

Any deviations noted from the approved plan of operations, or any problems noted with the performance of the landfill should be noted. These deviations may be noted during waste placement or at any other time that problems are observed.

Annual Report

Questar will prepare an Annual Report while the landfill is active and will keep a copy of the report in the Operating Record, as well as submitting a copy to the Executive Secretary. The *Solid Waste Facility Annual Report* form is provided in Appendix D. The report shall be submitted by March 1 of each year for the previous calendar year. The report shall contain at a minimum:

a) name and address of the facility;
b) calendar year covered by the report;
c) annual quantity, in cubic yards, of waste (from Operating Record); and
d) any deviance from operations outlined in the permit.

After closure of the cell it is proposed that the Annual Report be submitted during the post-closure inspection period only. The *Solid Waste Post-Closure Care Annual Report* form is provided in Appendix D. For planning purposes, the inspection period is assumed to extend 30 years past closure, or until the landfill is stabilized (see section 5.0).

3.0 ENGINEERING REPORT

The proposed design for the new landfill is presented in Sheets 2 through 7 of the engineering plans. Sheet 1 presents the location of the new landfill in relation to the city of Vernal, Utah. The Red Wash 7½ minute topographic quadrangle is included in Appendix C.

3.1 Landfill Construction

The landfill shall be constructed in phases, beginning with the northern-most portion of Trench A as indicated on Sheet 5. The trench shall be excavated approximately 5 to 7 feet into the native silty sand soil. The excavation slopes shall be a maximum of 2 horizontal to 1 vertical. The access ramp into the trench shall be a maximum slope of 10 percent. As the active portion of the trench becomes filled, excavation of additional trench area will proceed to the south. The excavated material will be used to cover the waste in the trench.

No heavy equipment is dedicated to the landfill. Excavation and earth moving is subcontracted to a company that routinely performs that type of work for Questar. In general, excavation and earth moving will be performed by a combination of backhoe and bulldozer.

After a trench reaches the dimensions indicated on Sheet 3 of the engineering plans, and waste has filled the capacity of the trench from the bottom to the original ground surface, the trench will be covered and closed. The waste shall be covered by a minimum of two feet of soil, including six inches of topsoil. The surface shall then be seeded with native vegetation. Reclamation of previously worked areas is a routine task for Questar, and the many reclaimed areas at the facility show much success in minimizing erosion.

While Trench A is being covered and closed, the northern portion of Trench B shall be prepared for the receipt of waste. Development of the landfill shall proceed in this manner until Trenches A, B, and C are all completed and closed. The final grading contours are indicated on Sheet 7.

All landfill construction will be performed as outlined in the construction plans and construction specifications (Appendix A).

3.2 Surface Water Controls

Swales are to be constructed in the locations indicated on the attached construction plans. The swales are intended to divert run-on into the natural drainage flowing into Walker Hollow, located directly north of the landfill site. Run-on is expected to be minimal because of the extremely small drainage "basin" area (less than 1.5 acres). The area up-slope from the landfill is well vegetated with sagebrush, grass, and cactus. There will be no run-off from the active trench of the landfill. Precipitation into the trench will be captured there, and will then dissipate through evaporation and infiltration. Run-off from non-active areas within the landfill fence will be routed through the swales.

Based on the small drainage "basin" contributing to precipitation run-on onto the landfill area, and rainfall data for a 25 year 24 hour storm, the maximum expected runoff is 0.02 cubic feet per second. The swales are designed to convey this maximum flow rate while minimizing erosion.

The maximum slope anticipated for the drainage swales is 7.5 percent. Using this slope, channel dimensions of one foot deep and 2:1 side slopes (zero bottom width), and a Manning coefficient of 0.025 (channel with rocks and vegetation), produces a maximum flow velocity of 1.71 feet per second. The maximum permissible velocity in this type of channel which will not cause erosion is 3.0 feet per second (U.S. Office of Surface Mining, 1982). Since the calculated maximum expected velocity is less than the permissible velocity, no erosion protection will be needed.

In order to determine the volume capacity of the swale, a slope of 1 percent was used in the calculations (a flatter slope will result in a deeper flow volume). A higher Manning coefficient of 0.035 (channel with rocks and vegetation) will also contribute to a deeper flow. Using these parameters, a depth of flow of 0.13 was calculated for a flow rate of 0.02 feet per second. Considering the geometry of the swale, this flow depth represents less than 2 percent of the swale volume, indicating that the design is more than adequate to divert any expected run-on and adequately route run-off.

In the area where the access road crosses the swale, the swale will be widened with flatter side slopes (see Sheet 6) to facilitate traffic. This "wide swale" has even more capacity than the swale used around the perimeter and is not subject to erosion. Engineering calculations are included in Appendix B.

4.0 CLOSURE PLAN

4.1 GENERAL

Final closure activities will be implemented when the capacity of the landfill has been reached. Closure of the site is to be performed in such a manner as to minimize potential effects of the landfill on the surrounding environment. The only post-closure activities which are planned at the site include annual inspections and associated maintenance (see Section 5.0).

4.2 FINAL COVER AND GRADING

The final grading plan is presented on Sheet 7. The waste shall be leveled to the extent possible. It is intended that the upper elevation of the waste be no higher than the natural surrounding land surface. The waste shall be covered with a minimum of two feet of soil, including six inches of topsoil. The closure is designed to maintain a positive drainage off the cell area. The final grades will be constructed to a minimum 2 percent slope on the top of the cell. All run-offs will be directed off and around the disposal cell.

4.3 REVEGETATION

The disturbed area (landfill cover and surrounding area) will be vegetated using a native grass and plant (sagebrush) seed mix that Questar has previously successfully used in the area. The vegetation will minimize erosion and promote evaporation from the cap.

4.4 VOLUME CAPACITY

The estimated capacity of the landfill is approximately 1,300 cubic yards (yd^3).

4.5 CLOSURE SCHEDULE

After the final volume of waste has been disposed in the landfill, it shall be closed. The Executive Secretary shall be notified of the intent to close the landfill within 60 days of final disposal in the landfill. The closure shall commence within 30 days of the final disposal of waste at the landfill and shall be completed within 180 days.

4.6 COST ESTIMATE AND FINANCIAL ASSURANCE

The engineering cost estimate for the closure of the Questar Red Wash Landfill is $30,000, which includes the cost of capping, grading and seeding the cover, and annual inspections and maintenance during the post-closure period. It is proposed that a Surety Bond guaranteeing payment or performance {R315-309-3(4)} be approved as the financial assurance mechanism for this facility. The bond shall be in place before initial receipt of waste at the facility.

4.7 FINAL INSPECTION

A final inspection will be performed at the Questar Red Wash landfill site at the termination of the landfill activities. The final inspection will determine if the landfill meets the closure requirements as outlined in the permit and closure plans. Inspection will mainly include cell cover design requirements that will promote drainage from the landfill cap.

4.8 POST CLOSURE RUN-ON/RUN-OFF CONTROLS

The final cover of the landfill cell will be graded to promote proper drainage. Final drainage swales will be constructed around the perimeter of the completed cell. These swales shall be vegetated along with the cover.

4.9 RECORDING

Plats and a statement of fact concerning the location of the disposal site shall be recorded as part of the record of title with the county recorder within 60 days after certification of closure.

5.0 POST-CLOSURE CARE PLAN

The landfill closure design is intended to minimize the amount of post-closure care that is needed. For financial assurance planning purposes, it has been assumed that the landfill will be inspected annually during the post-closure period of 30 years to monitor the revegetation of the landfill area, potential erosion, and settlement, and to ensure that the landfill has stabilized. Any area of the cover that shows deterioration, and which may jeopardize the integrity of the cap, will be repaired. If no maintenance is required during a period of five consecutive years, an abbreviated post-closure period may be requested from the Executive Secretary of the Utah Department of Environmental Quality.

6.0 REFERENCE

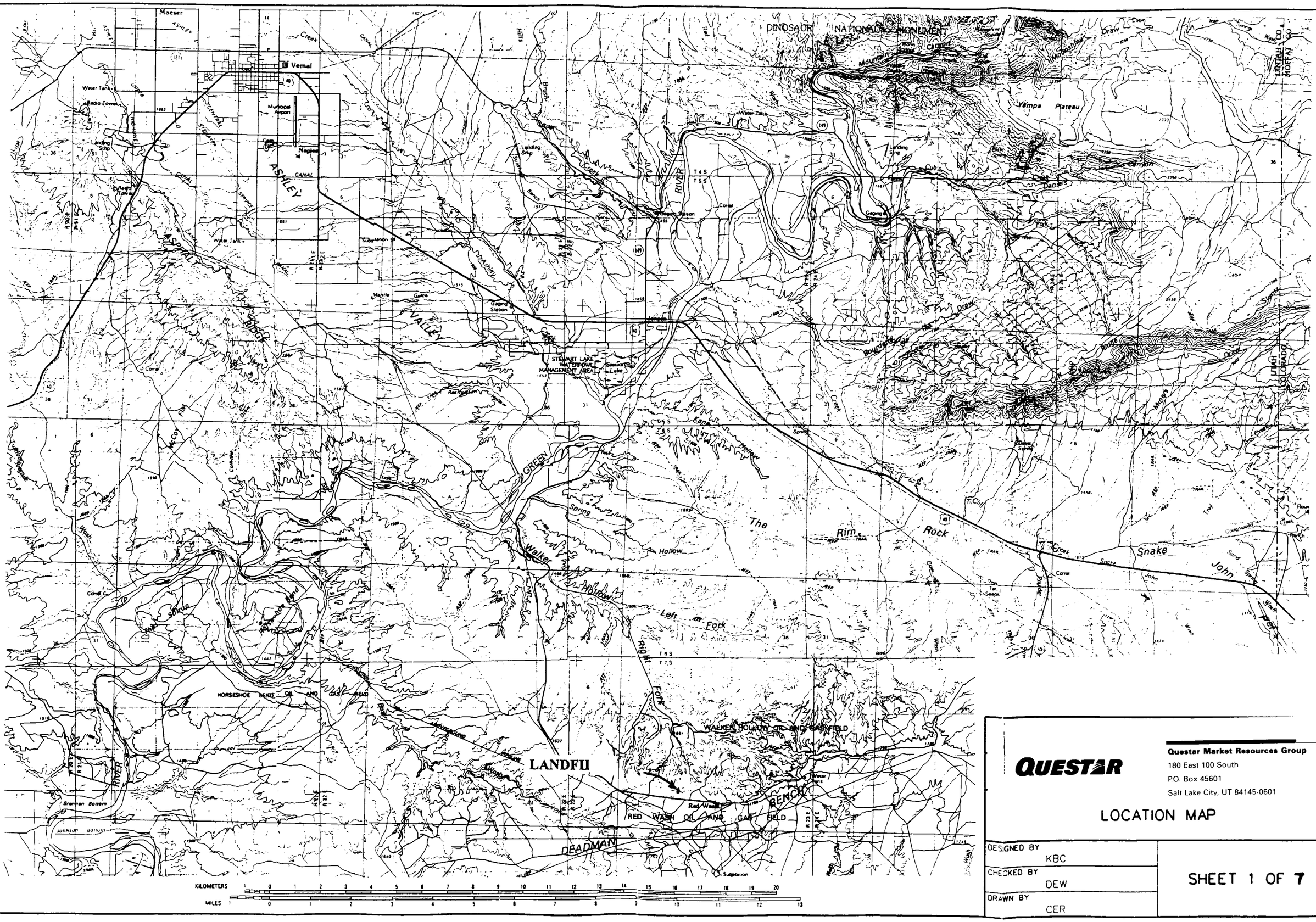
Ashcroft, G. L., Jensen, D. T., Brown, J.L., 1992, *Utah Climate*, Utah Climate Center, Utah State University.

Haestad Methods, Inc., 1990, Flowmaster I, Version 3.11, Open Channel Flow Module

Red Wash, Utah 7½ Minute Quadrangle, 1978, United States Geological Survey

Stauffer, N. E., Jr., 1985, A Fortran Computer Program 'STORM' for Computing Synthetic Storm Hydrographs

USGS Redwash 7½ minute quadrangle



QUESTAR

Questar Market Resources Group
180 East 100 South
P.O. Box 45601
Salt Lake City, UT 84145-0601

LOCATION MAP

DESIGNED BY KBC	SHEET 1 OF 7
CHECKED BY DEW	
DRAWN BY CER	

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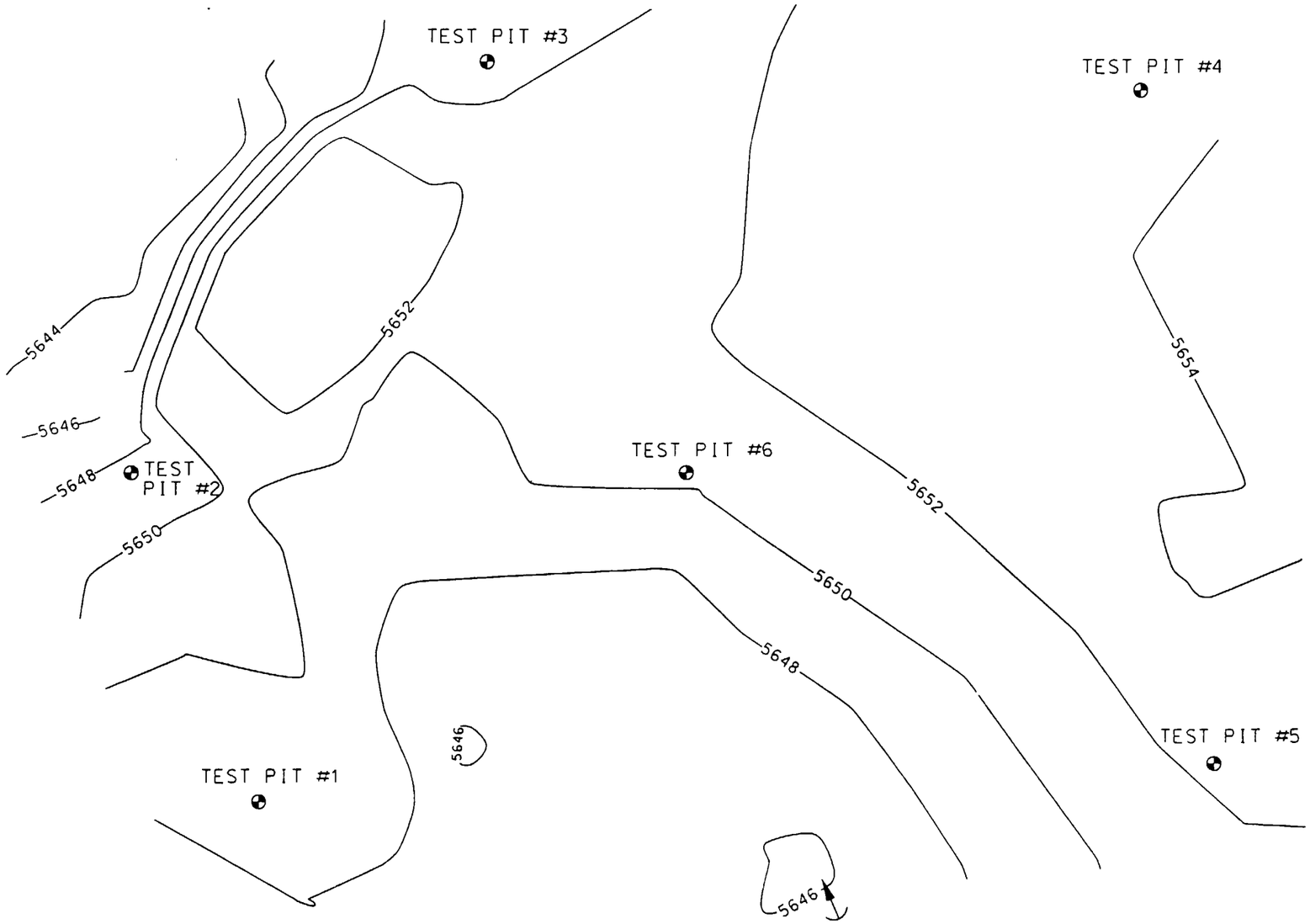

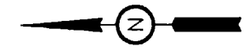

30' 15' 0' 30'

S C A L E

NOTE:

TEST PITS EXCAVATED 6/99.

N70°1'40"E
990.48'

TO SOUTH QUARTER CORNER
SECTION 16. T7S. R23E
1937 BRASS CAP

QUESTAR

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180 East 100 South
PO Box 45601
Salt Lake City, UT 84145-0601

EXISTING SITE CONDITIONS

DESIGNED BY KBC	SHEET 2 OF 7
CHECKED BY DEW	
DRAWN BY CER	

20 JUL 99

i:\cadd\2-figure2.dgn

BERM
(SEE DETAIL 2)

NARROW
DRAINAGE SWALE
(SEE DETAIL 1)

TRENCH A

TRENCH B

TRENCH C

5644
5646
5648
5650
5652
5654

GATE

PROPOSED ACCESS ROAD

N

30' 15' 0' 30'

SCALE

LEGEND:

FENCE
SWALE
BERM

N70°1'40"E
990.48'

WIDE DRAINAGE
SWALE SECTION
(SEE DETAIL 3)

TO SOUTH QUARTER CORNER
SECTION 16, T7S, R23E
1937 BRASS CAP

ACCESS TO
OIL WELL RW 260

20 JUL 99

j:\cadd\2-figure3.dgn

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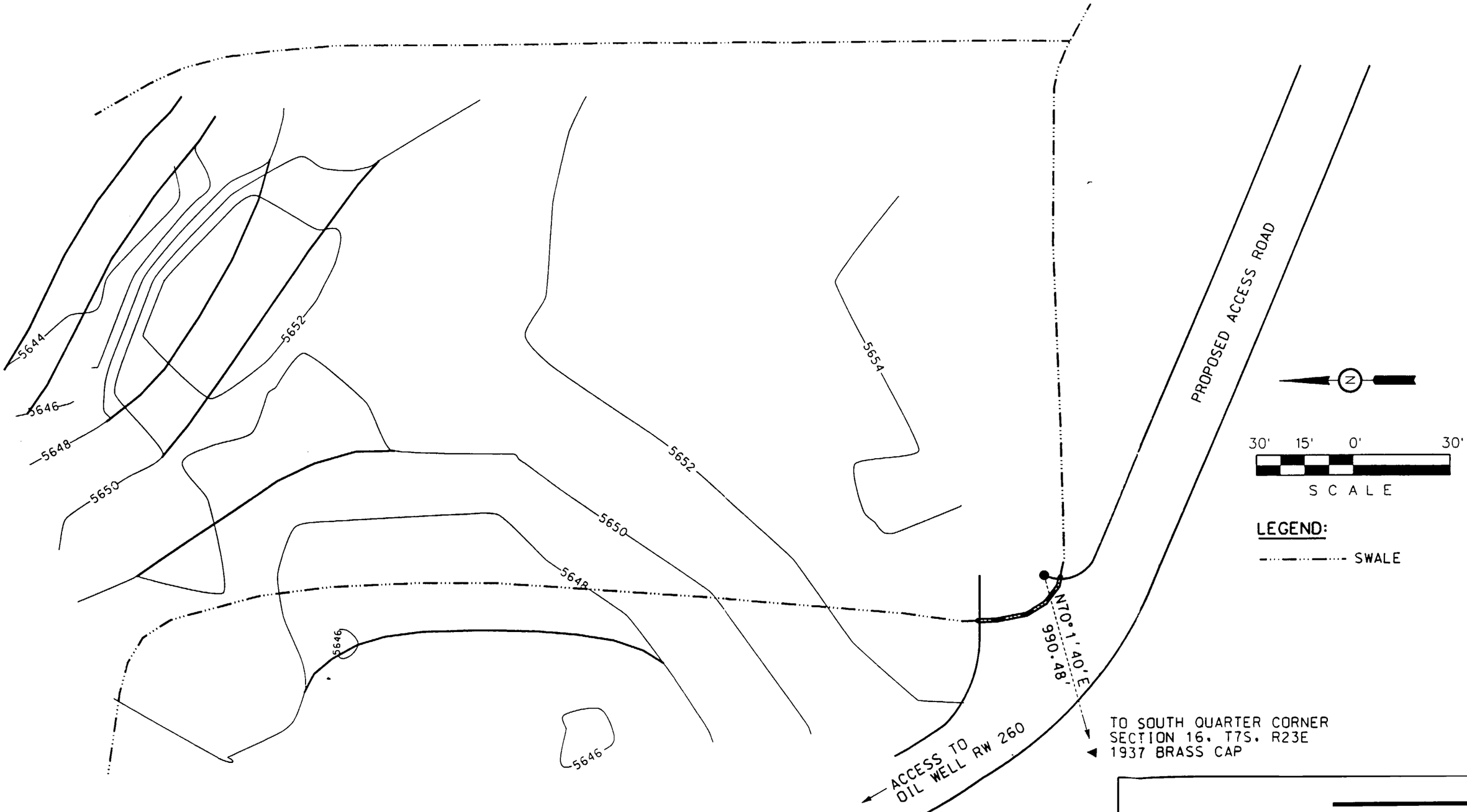
PO Box 45601
Salt Lake City, UT 84145-0601

PROPOSED TRENCH LAYOUT

DESIGNED BY: KBC	SHEET 3 OF 7
CHECKED BY: DEW	
DRAWN BY: CER	



20 JUL 99

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P.O. Box 45601
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PRELIMINARY GRADING PLAN

DESIGNED BY KBC	SHEET 4 OF 7
CHECKED BY DEW	
DRAWN BY CER	

BERM
(SEE DETAIL 2)

NARROW
DRAINAGE SWALE
(SEE DETAIL 1)

2:1
2:1
5643
5643
RAMP ACCESS 10%
2:1

NOTE:
EXCAVATION PROCEEDS TO THE SOUTH AS TRENCH IS FILLED. EXCAVATED MATERIAL TO BE USED FOR WASTE COVER.

5644
5646
5648
5650
5652
5654

PROPOSED ACCESS ROAD

N

30' 15' 0' 30'
SCALE

LEGEND:
X—X—X FENCE
SWALE
BERM

GATE

WIDE DRAINAGE
SWALE SECTION
(SEE DETAIL 3)

ACCESS TO
OIL WELL RW 260

20 JUL 99

j:\cadd\2-figure5.dgn

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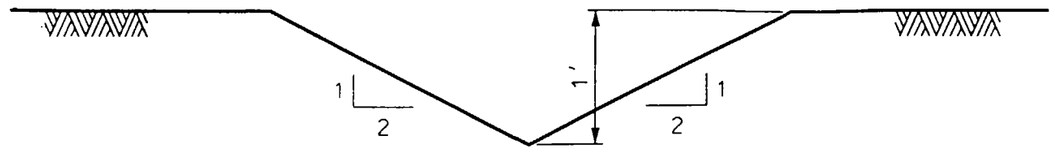
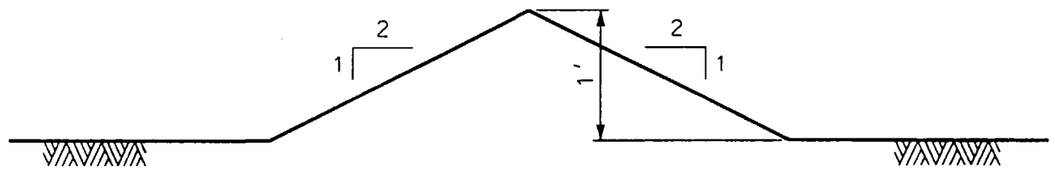
TRENCH A EXCAVATION PLAN

DESIGNED BY KBC	SHEET 5 OF 7
CHECKED BY DEW	
DRAWN BY CER	



DETAIL 1 - NARROW DRAINAGE SWALE



DETAIL 2 - BERM
(CONSTRUCTED FROM NATIVE MATERIAL
EXCAVATED FROM SWALE)

DETAIL 3 - WIDE DRAINAGE SWALE SECTION

20 JUL 99

j:\cadd\2-figure6.dgn

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180 East 100 South
PO Box 45601
Salt Lake City, UT 84145-0601

DETAILS

DESIGNED BY KBC	SHEET 6 OF 7
CHECKED BY DEW	
DRAWN BY CER	

BERM
(SEE DETAIL 2)

NARROW
DRAINAGE SWALE
(SEE DETAIL 1)

PROPOSED ACCESS ROAD

5644
5646
5648
5650
5652
5654
5656

GATE

N

30' 15' 0' 30'
SCALE

LEGEND:

- FENCE
- SWALE
- BERM

WIDE DRAINAGE
SWALE SECTION
(SEE DETAIL 3)

ACCESS TO
OIL WELL RW 260

20 JUL 99

j:\cadd\2-figure7.dgn

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PO Box 45601
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FINAL GRADING PLAN

DESIGNED BY KBC	SHEET 7 OF 7
CHECKED BY DEW	
DRAWN BY CER	

APPENDIX A
CONSTRUCTION SPECIFICATIONS

CLASS IIIb INDUSTRIAL LANDFILL
CONSTRUCTION SPECIFICATIONS

TABLE OF CONTENTS

(September 3, 1999)

DIVISION 1 GENERAL CONDITIONS

DIVISION 2 SITE WORK

SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

1.01 SPECIFICATIONS

A. URS Greiner Woodward Clyde (URSGWC) has been retained by Chevron U.S.A. Production Company (Chevron) to provide detailed Construction Plans and Specifications for the permitting and construction of a new Class IIIb industrial landfill.

B. The landfill is regulated by the State of Utah Division of Solid and Hazardous Waste as defined in the *Solid Waste Permitting and Management Rules, R315-301 Through 320* (1999), hereafter called the Rules. The design of the landfill meets all the requirements promulgated in the Rules.

1.02 SCOPE OF WORK AND SEQUENCE

A. This document presents Specifications applicable to the scope of work. The general sequence of work is presented below.

- Construction of access roads, drainage structures, and other miscellaneous work.
- Phased excavation of the new landfill using the trench/fill method.
- Waste and intermediate cover placement.
- Grading the trench cover to the specified grades to promote drainage.
- Revegetation of the final cover.

PART 2 - PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF SECTION

SECTION 01041

COORDINATION AND MEETINGS

PART 1 - GENERAL

1.01 COORDINATION WITH THE ENGINEER

A. All contractors shall cooperate with the Engineer, inspectors, and other contractors to establish on-site lines of authority for communications.

B. Changes in design or materials must be presented to the Engineer prior to implementation. The Engineer will have one day to respond to the proposed changes in approving, disapproving, requesting further information, or suggesting modifications.

C. The Engineer shall be notified in writing or verbally of any problems that develop during construction, or that are noted in the Plans and Specifications.

1.02 COORDINATION WITH CHEVRON

A. The Engineer shall stay in contact with Chevron on a daily basis (can be via telephone) during construction in order to update Chevron as to the progress.

1.03 MEETINGS

A. At the start of construction of the landfill the Engineer or representative, Chevron personnel, and the selected contractor, will have a kickoff meeting to discuss responsibilities, schedule, and to address and questions that either party may have. This is expected to occur the morning of the first day of construction.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 01560

TEMPORARY CONTROLS

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall provide dust control measures as required to abate fugitive dust. If excessive fugitive dust emissions are noted during construction, water shall be used to wet the soils to prevent dust. Dust control measures shall be implemented if necessary during excavation and placement of all soil materials.

PART 2 - PRODUCTS

2.01 WATER

A. The Contractor shall provide suitable means for applying water for dust control, if required, and shall also be responsible for the procurement of the water.

PART 3 - EXECUTION

3.01 DUST CONTROL

A. If during operations it is noted that dry soils are producing excessive fugitive dust, the surface shall be wetted as needed to control the dust emissions. Water shall be applied in a manner as to avoid pooling and runoff. The Contractor shall procure and apply water for dust abatement.

END OF SECTION

SECTION 02220

EXCAVATION

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section covers the excavation, grading, and compacting of soils.

1.02 SITE CONDITIONS

A. A current topographic map is included as Sheet 2 of the Plans. The vegetation consists of a sparse amount of sagebrush with some grasses.

1.03 RELATED WORK

A. Section 02700 - Stormwater Drainage Structures

PART 2 - MATERIALS

NATIVE SOILS

A. Site soils typically consist of a dry silty sand soil.

PART 3 - EXECUTION

3.01 PRELIMINARY GRADING

A. The entire landfill site will be graded prior to excavation of the trenches in order to remove mounds, fill depressions, and prepare the general area (see Sheet 4 of the plans). The area has already been disturbed and no vegetation will be removed during this phase.

3.02 EXCAVATION OF TRENCHES

A. The trenches will be excavated into the silty sandy native soil with a backhoe and/or bulldozer. The side slopes shall be maintained at a maximum slope of 2:1. A ramp with a slope of approximately 10% will be constructed at the end of the active trench for access.

B. The trench shall be graded generally to the depths and grades shown on the Plans. If changes are proposed to be made to the design, the Contractor shall notify the Engineer and receive approval in writing prior to proceeding with the changes.

3.03 COMPACTION

A. No compaction will be required for the bottom or side slopes of the trench. The 18-inch protective layer of the final cover shall be compacted by at least 3 passes of a bulldozer; however, no density testing will be required. The 6-inch vegetative layer shall not be compacted.

3.04 SAFETY

A. All work shall be done in accordance with OSHA regulations and by local standards and accepted safe practices.

END OF SECTION

SECTION 02235

INTERMEDIATE COVER

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. The work covered in this section includes the placement and compaction of the intermediate cover. The intermediate cover is to be placed on top of the waste when the disposal area is expected to be inactive for at least 1 month.

PART 2 - PRODUCTS

2.01 COVER MATERIAL

A. Intermediate cover material shall consist of native silty sand material taken from the trench excavation, or from undeveloped areas of the landfill.

PART 3 - EXECUTION

3.01 INTERMEDIATE COVER

A. The cover shall be placed over the landfill debris to a total depth of at least 6 inches. The material shall be lightly compacted by at least one pass of a backhoe or bulldozer.

PART 2 - PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF SECTION

SECTION 02700

STORMWATER DRAINAGE STRUCTURES

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. The contractor shall be responsible to provide all material, equipment, and labor required to install the drainage swales and berms.

B. Drainage structures will be installed to facilitate construction activities, prevent run-on, and promote drainage of the landfill area.

1.02 RELATED WORK

A. Section 02930 – Revegetation

PART 2 - PRODUCTS

2.01 NATIVE SOILS

A. Site soils typically consist of a dry silty sand soil.

PART 3 - EXECUTION

3.01 DRAINAGE SWALES AND BERMS

A. The drainage swales shall be constructed in the locations and to the dimensions shown on Sheets 3 and 6 of the Plans. All swales shall have a minimum slope of 1% in the flowline.

B. After the swales have been excavated they shall be seeded to promote vegetation, see Section 2930.

END OF SECTION

SECTION 02930

REVEGETATION

PART 1 - GENERAL

1.01 SCOPE

A. The Contractor shall coordinate with Chevron for the source of a suitable seed mixture and mulch. The contractor shall provide all necessary equipment required for seeding of the landfill area.

PART 2 - MATERIALS

2.01 SEED AND COMPOST

A. The seed mixture to be used shall be identified by Chevron in accordance with their standard practice for revegetating disturbed areas at the site. Available compost material shall be provided by Chevron.

PART 3 - EXECUTION

3.01 PREPARATION FOR AND PLANTING OF SEED

A. Soils to receive seed shall be properly prepared by moistening the area before planting if the soil is dry.

B. The seed and compost shall be applied in accordance with Chevron's standard practice for reseeding disturbed areas.

END OF SECTION

APPENDIX B
ENGINEERING CALCULATIONS

7/18/99

CHEVRON RED. WASH LANDFILL
RUN-ON / RUN-OFF CALCULATIONS "STORM"

INPUT FOR "STORM" COMPUTER MODEL

DRAINAGE AREA
RAINFALL FOR 25 YR 24 HR STORM
TIME OF CONCENTRATION t_c
RUNOFF CURVE NUMBER CN

DRAINAGE AREA = 250' × 300' = 0.003 SQ MI.

RAINFALL FOR 25 YR 24 HR STORM FROM NOAA ATLAS
= 1.8"

TIME OF CONCENTRATION

$$t_c = 0.0078\, L^{0.77}\, S^{-0.385}$$

$$= 0.0078\,(300)^{0.77}\left(\tfrac{40}{600}\right)^{-0.385}$$

= 1.79 min = 0.0298 HR

L = "STREAM" LENGTH FROM OUTLET TO DIVIDE (FEET)
S = AVG. SLOPE

CURVE NUMBER

CN: TYPE "B" SOILS (LOAMY SAND WITH MODERATE INFILTRATION RATES)

RANGE LAND WITH FAIR TO GOOD VEGETATION

CN = 64

1

NEW CHEVRON LANDFILL 25 YR 24 HR STORM
UNIT HYDROGRAPH

DRAINAGE AREA (SQUARE MILES) .003
TIME OF CONCENTRATION (HOURS) .029

TIME (HOURS)	DISCHARGE (CFS)
.000	.00
.125	10.95
.250	1.01
.375	.00

TOTAL DISCHARGE = .124 ACRE-FEET

1

NEW CHEVRON LANDFILL 25 YR 24 HR STORM
STORM HYDROGRAPH RAIN = 1.800 DURATION = 24.0 RUNOFF = .072
STORM DISTRIBUTION IS SCS 24-HR
CURVE NUMBER METHOD CN =64.0

TIME (HOURS)	RAINFALL (INCHES)	NET RAIN (INCHES)	DISCHARGE (CFS)
.000	.0000	.0000	.00
.125	.0027	.0000	.00
.250	.0027	.0000	.00
.375	.0027	.0000	.00
.500	.0027	.0000	.00
.625	.0027	.0000	.00
.750	.0027	.0000	.00
.875	.0027	.0000	.00
1.000	.0027	.0000	.00
1.125	.0027	.0000	.00
1.250	.0027	.0000	.00
1.375	.0027	.0000	.00
1.500	.0027	.0000	.00
1.625	.0027	.0000	.00
1.750	.0027	.0000	.00
1.875	.0027	.0000	.00
2.000	.0027	.0000	.00
2.125	.0027	.0000	.00
2.250	.0027	.0000	.00
2.375	.0027	.0000	.00
2.500	.0027	.0000	.00
2.625	.0027	.0000	.00
2.750	.0027	.0000	.00
2.875	.0027	.0000	.00
3.000	.0027	.0000	.00
3.125	.0027	.0000	.00
3.250	.0027	.0000	.00

3.375	.0027	.0000	.00
3.500	.0027	.0000	.00
3.625	.0027	.0000	.00
3.750	.0027	.0000	.00
3.875	.0027	.0000	.00
4.000	.0027	.0000	.00
4.125	.0036	.0000	.00
4.250	.0036	.0000	.00
4.375	.0036	.0000	.00
4.500	.0036	.0000	.00
4.625	.0036	.0000	.00
4.750	.0036	.0000	.00
4.875	.0036	.0000	.00
5.000	.0036	.0000	.00
5.125	.0036	.0000	.00
5.250	.0036	.0000	.00
5.375	.0036	.0000	.00
5.500	.0036	.0000	.00
5.625	.0036	.0000	.00

1

NEW CHEVRON LANDFILL 25 YR 24 HR STORM
STORM HYDROGRAPH RAIN = 1.800 DURATION = 24.0 RUNOFF = .072
STORM DISTRIBUTION IS SCS 24-HR
CURVE NUMBER METHOD CN =64.0

TIME (HOURS)	RAINFALL (INCHES)	NET RAIN (INCHES)	DISCHARGE (CFS)
5.750	.0036	.0000	.00
5.875	.0036	.0000	.00
6.000	.0036	.0000	.00
6.125	.0045	.0000	.00
6.250	.0045	.0000	.00
6.375	.0045	.0000	.00
6.500	.0045	.0000	.00
6.625	.0045	.0000	.00
6.750	.0045	.0000	.00
6.875	.0045	.0000	.00
7.000	.0045	.0000	.00
7.125	.0045	.0000	.00
7.250	.0045	.0000	.00
7.375	.0045	.0000	.00
7.500	.0045	.0000	.00
7.625	.0045	.0000	.00
7.750	.0045	.0000	.00
7.875	.0045	.0000	.00
8.000	.0045	.0000	.00
8.125	.0061	.0000	.00
8.250	.0061	.0000	.00
8.375	.0061	.0000	.00
8.500	.0061	.0000	.00
8.625	.0061	.0000	.00
8.750	.0061	.0000	.00
8.875	.0061	.0000	.00
9.000	.0061	.0000	.00
9.125	.0072	.0000	.00
9.250	.0072	.0000	.00

9.375	.0072	.0000	.00
9.500	.0072	.0000	.00
9.625	.0081	.0000	.00
9.750	.0081	.0000	.00
9.875	.0081	.0000	.00
10.000	.0081	.0000	.00
10.125	.0104	.0000	.00
10.250	.0103	.0000	.00
10.375	.0103	.0000	.00
10.500	.0104	.0000	.00
10.625	.0139	.0000	.00
10.750	.0140	.0000	.00
10.875	.0139	.0000	.00
11.000	.0139	.0000	.00
11.125	.0216	.0000	.00
11.250	.0216	.0000	.00
11.375	.0216	.0000	.00

1

NEW CHEVRON LANDFILL 25 YR 24 HR STORM
STORM HYDROGRAPH RAIN = 1.800 DURATION = 24.0 RUNOFF = .072
STORM DISTRIBUTION IS SCS 24-HR
CURVE NUMBER METHOD CN =64.0

TIME (HOURS)	RAINFALL (INCHES)	NET RAIN (INCHES)	DISCHARGE (CFS)
11.500	.0216	.0000	.00
11.625	.0936	.0000	.00
11.750	.0936	.0000	.00
11.875	.2484	.0000	.00
12.000	.2484	.0008	.00
12.125	.0324	.0010	.01
12.250	.0324	.0013	.01
12.375	.0324	.0017	.02
12.500	.0324	.0020	.02
12.625	.0166	.0012	.02
12.750	.0166	.0012	.01
12.875	.0167	.0013	.01
13.000	.0167	.0014	.02
13.125	.0121	.0011	.02
13.250	.0122	.0011	.01
13.375	.0122	.0012	.01
13.500	.0121	.0012	.01
13.625	.0094	.0010	.01
13.750	.0094	.0010	.01
13.875	.0095	.0010	.01
14.000	.0094	.0011	.01
14.125	.0067	.0008	.01
14.250	.0067	.0008	.01
14.375	.0068	.0008	.01
14.500	.0067	.0008	.01
14.625	.0068	.0008	.01
14.750	.0067	.0008	.01
14.875	.0068	.0009	.01
15.000	.0067	.0009	.01
15.125	.0067	.0009	.01
15.250	.0067	.0009	.01

15.375	.0067	.0009	.01
15.500	.0067	.0009	.01
15.625	.0067	.0009	.01
15.750	.0068	.0009	.01
15.875	.0067	.0010	.01
16.000	.0068	.0010	.01
16.125	.0041	.0006	.01
16.250	.0041	.0006	.01
16.375	.0040	.0006	.01
16.500	.0041	.0006	.01
16.625	.0041	.0006	.01
16.750	.0040	.0006	.01
16.875	.0041	.0006	.01
17.000	.0041	.0006	.01
17.125	.0041	.0006	.01

1

NEW CHEVRON LANDFILL 25 YR 24 HR STORM
STORM HYDROGRAPH RAIN = 1.800 DURATION = 24.0 RUNOFF = .072
STORM DISTRIBUTION IS SCS 24-HR
CURVE NUMBER METHOD CN =64.0

TIME (HOURS)	RAINFALL (INCHES)	NET RAIN (INCHES)	DISCHARGE (CFS)
17.250	.0041	.0006	.01
17.375	.0040	.0006	.01
17.500	.0041	.0006	.01
17.625	.0041	.0006	.01
17.750	.0040	.0006	.01
17.875	.0041	.0007	.01
18.000	.0041	.0007	.01
18.125	.0041	.0007	.01
18.250	.0041	.0007	.01
18.375	.0040	.0007	.01
18.500	.0041	.0007	.01
18.625	.0041	.0007	.01
18.750	.0040	.0007	.01
18.875	.0041	.0007	.01
19.000	.0041	.0007	.01
19.125	.0041	.0007	.01
19.250	.0041	.0007	.01
19.375	.0040	.0007	.01
19.500	.0041	.0007	.01
19.625	.0041	.0007	.01
19.750	.0040	.0007	.01
19.875	.0041	.0007	.01
20.000	.0041	.0007	.01
20.125	.0027	.0005	.01
20.250	.0027	.0005	.01
20.375	.0027	.0005	.01
20.500	.0027	.0005	.01
20.625	.0027	.0005	.01
20.750	.0027	.0005	.01
20.875	.0027	.0005	.01
21.000	.0027	.0005	.01
21.125	.0027	.0005	.01
21.250	.0027	.0005	.01

21.375	.0027	.0005	.01
21.500	.0027	.0005	.01
21.625	.0027	.0005	.01
21.750	.0027	.0005	.01
21.875	.0027	.0005	.01
22.000	.0027	.0005	.01
22.125	.0027	.0005	.01
22.250	.0027	.0005	.01
22.375	.0027	.0005	.01
22.500	.0027	.0005	.01
22.625	.0027	.0005	.01
22.750	.0027	.0005	.01
22.875	.0027	.0005	.01

1

NEW CHEVRON LANDFILL 25 YR 24 HR STORM
STORM HYDROGRAPH RAIN = 1.800 DURATION = 24.0 RUNOFF = .072
STORM DISTRIBUTION IS SCS 24-HR
CURVE NUMBER METHOD CN =64.0

TIME (HOURS)	RAINFALL (INCHES)	NET RAIN (INCHES)	DISCHARGE (CFS)
23.000	.0027	.0005	.01
23.125	.0027	.0005	.01
23.250	.0027	.0005	.01
23.375	.0027	.0005	.01
23.500	.0027	.0005	.01
23.625	.0027	.0005	.01
23.750	.0027	.0005	.01
23.875	.0027	.0005	.01
24.000	.0027	.0005	.01
24.125	.0000	.0000	.01
24.250	.0000	.0000	.00
24.375	.0000	.0000	.00
TOTALS	1.800	.0723	.87

STORM HYDROGRAPH VOLUME = .01 ACRE-FEET
MAXIMUM STORM DISCHARGE = .02 CFS

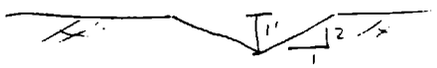
7/18/99

CHEVRON RED WASH LANDFILL
RUN-ON / RUN OFF CALCULATIONS

SWALE DESIGN - "FLOWMASTER"

PEAK FLOW FROM "STORM" MODELING = 0.02 CFS

"FLOWMASTER" COMPUTER MODEL INPUT FOR CHANNEL



BOTTOM WIDTH = 0'
SIDE SLOPES = 2:1

MANNING'S n = 0.035 FOR NATURAL CHANNELS WITH STONES AND WEEDS

0.025 FOR NATURAL CHANNELS, GOOD CONDITION

USE 0.035 TO COMPUTE CAPACITY OF CHANNEL (LOWER VELOCITY)

USE 0.025 TO COMPUTE EROSION POTENTIAL (HIGHER VELOCITY)

CHANNEL SLOPE RANGES FROM 1% TO 7.5%

DISCHARGE = 0.02 CFS

LOW VELOCITY OUTPUT = FLOW DEPTH OF 0.13 FT
FLOW AREA OF 0.03 SF

FLOW AREA OF CHANNEL = 2 SF
THEREFORE MAX EXPECTED FLOW IS < 2% OF CAPACITY

HIGH VELOCITY OUTPUT = VELOCITY OF 1.71 FPS

MAXIMUM PERMISSIBLE VELOCITY IN NATURAL CHANNEL WITHOUT EROSION IS 3.0 FPS

THEREFORE NO EROSION IS EXPECTED

Trapezoidal Channel Analysis & Design
Open Channel – Uniform Flow

Worksheet Name: CHEVRON RED WASH LANDFILL

Comment: Low velocity calculation

Solve for Depth

Given Input Data:

Bottom Width	0.00 ft
Left Side Slope	2.00:1 (H:V)
Right Side Slope	2.00:1 (H:V)
Manning's n	0.035
Channel Slope	0.01 ft/ft
Discharge	0.02

Computed Results:

Depth	0.13 ft
Velocity	0.63 fps
Flow Area	0.03 sf
Flow Top Width	0.51 ft
Wetted Perimeter	0.57 ft
Critical Depth	0.09 ft
Critical Slope	0.0581 ft/ft
Froude Number	0.44

Trapezoidal Channel Analysis & Design
Open Channel – Uniform Flow

Worksheet Name: CHEVRON RED WASH LANDFILL

Comment: High velocity calculation

Solve for Depth

Given Input Data:

Bottom Width	0.00 ft
Left Side Slope	2.00:1 (H:V)
Right Side Slope	2.00:1 (H:V)
Manning's n	0.025
Channel Slope	0.075 ft/ft
Discharge	0.02

Computed Results:

Depth	0.08 ft
Velocity	1.71 fps
Flow Area	0.01 sf
Flow Top Width	0.31 ft
Wetted Perimeter	0.34 ft
Critical Depth	0.09 ft
Critical Slope	0.0296 ft/ft
Froude Number	1.55

APPENDIX C
7½ MINUTE TOPOGRAPHIC QUADRANGLE

GEOLOGICAL SURVEY

RED WASH, UTAH

40109–B3–TF–024

1968

PHOTOINSPECTED 1978

DMA 4164 III NE–SERIES V897

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1965 Field checked 1968

Polyconic projection 1927 North American Datum
10,000-foot grid based on Utah coordinate system, central zone
1000-meter Universal Transverse Mercator grid ticks, zone 12, shown in blue

To place on the predicted North American Datum 1983 move the projection lines 7 meters north and 59 meters east as shown by dashed corner ticks

Map photoinspected 1978
No major culture or drainage changes observed

SCALE 1:24000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UTM GRID AND 1968 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U S GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION

Secondary highway, all weather, hard surface — Light-duty road, all weather, improved surface — Unimproved road, fair or dry weather

State Route

UTAH

QUADRANGLE LOCATION

INTERIOR–GEOLOGICAL SURVEY, RESTON, VIRGINIA–1980

APPENDIX D
FORMS

Waste Data Gathering Sheet
Red Wash

Circle One:

1. **Location Code:** RE = Red Wash

2. **Group Code:** CR = Crafts DR = Drilling FS = Field Support
   OS = Operations PL = Plants OF = Field Office

3. **Location (OPTIONAL):** _____

4. **Waste Code (see attached):** _____ 5. **Quantity (By Units for Code):** _____

6. **Exempt/Non-Exempt** E N 7. **Hazardous/Non-Hazardous** H N

8. **Date Generated (MO/DA/YR):** _____

9. **Date Disposed/Shipped for Disposal (MO/DA/YR):** _____
   (NOTE: Required for Hazardous Waste only)

10. **Onsite/Offsite** O F 11. **Routine/Non-Routine** R N

12. **Disposal Method Code:**

BUR = Burial LNF = Landfill PIT = Pit SEW = Sewage Treatment
INC = Inceneration LSP = Landspread RDS = Roadspread RMD = Remediation
RRO = Recycle/Reuse WTI = InjectionWell WDW = Disposal Well
OTR = Other

13. **Disposal Company:** _____

14. **Disposal Facility Name:** _____

15. **Transportation Company:** _____

16. **Manifest No. (Hazardous Waste Only):** _____

17. **Treatment/Pretreatment Costs:** _____ 18. **Storage Costs:** _____

19. **Transportation Costs:** _____ 20. **Disposal Costs:** _____

21. **Comments:**

22. **Name of Person Submitting Report:** _____
(please print clearly)

QUARTERLY INSPECTION FORM

Date: _____

Time: _____

Name of Inspector: _____

RESULTS OF INSPECTION

Condition of Landfill Cap:
(vegetation, erosion, etc.) _____

Drainage Swales:
(evidence of erosion, debris in swale, etc.) _____

Fence and Gate:
(any gaps in fence, gate operates, etc.): _____

Cleanliness:
(windblown waste, debris, etc.) _____

Other: _____

SUMMARY

Any Problems Noted? (describe)

_____

Corrective Actions Taken:

_____

Date: _____

Signature: _____

Mail to:
Dennis R. Downs, Director
Division of Solid and Hazardous Waste
P.O. Box 144880
Salt Lake City, Utah 84114-4880

Date Received:_____

SOLID WASTE FACILITY ANNUAL REPORT

Part I - General Information

Administrative Information Please enter the information requested in the space provided below, including the name, title and telephone number of a contact person who can answer questions regarding this report.

Calendar or fiscal year of report: _____
If fiscal year, please provide period covered: From _____ To _____
Facility Name: _____
Mailing Address: _____
(Number & Street, Box and/or Route)
City:_____, State:_____ Zip Code:_____

Facility Location County: _____
T._____, R._____, Sec._____, _____¼ of _____¼
Lat._____° _____' _____"N, Long._____° _____' _____"W
Contact's Name:_____ Phone No.:(___)_____
Title:_____

Owner
Name:_____ Phone No.:(___)_____
Mailing Address:_____
(Number & Street, Box and/or Route)
City:_____, State:_____ Zip Code:_____

Operator
Name:_____ Phone No.:(___)_____
(if different from Owner above)
Mailing Address:_____
(Number & Street, Box and/or Route)
City:_____, State:_____ Zip Code:_____

Permit Information To insure complete records and proper filing please complete the following.

Permit No.:_____ Permit Date:_____
(If permit was issued after 1988) (Date permit was signed)

Facility Type

Landfill*
[ ] Class I
[ ] Class II
[ ] Class IV
[ ] Class V

Other
[ ] Energy Recovery
[ ] Incinerator
[ ] Landtreatment

Facility Status

[ ] Currently in Operation [ ] Closed - Date:_____

(The "Closed - Date" is the date that the landfill final cover construction was completed and will become the date that the 30 year post-closure care period begins)

Part II - Other Information

Annual Disposal

Tons disposed in reporting period:_____ or cubic yards:_____

Tons per day:_____ Tons recycled:_____

(Total tons divided by 365)

Please provide the following information if available:

In-place density of waste:_____lb/cu yard

Disposal capacity remaining at the site using one or more of the following measures:
(Please base capacity on those provided to the Division of Air Quality if this estimate has been made)

Years:_____ Cubic Yards:_____

Acres:_____ Tons:_____

Other Required Reports

Financial Assurance report enclosed: Yes ____ No ____

(If "NO" please provide date when report will be completed)

Has financial assurance been recalculate for inflation or other changes?

Yes ____ No ____

(If "NO" when will this recalculation be made)

Facilities using "Local Government Financial Test" must provide the information required in R315-309-3(7)(d)

Ground Water Monitoring report, including statistical analysis, enclosed if applicable:

Yes ____ No ____ Not Required ____

(If "NO" please provide date when report will be completed)

Explosive Gas Monitoring report enclosed if applicable:

Yes ____ No ____ Not Required ____

(If "NO" please provide date when report will be completed)

A report of all training programs or procedures completed by facility personnel during the year.

Signature:_____ Date:_____

"Class I landfill" means a municipal landfill or a commercial landfill solely under contract with a local government taking municipal waste generated within the boundaries of the local government and receiving, on a yearly average, over 20 tons of solid waste per day.

"Class II landfill" means a municipal landfill or a commercial landfill solely under contract with a local government taking municipal waste generated within the boundaries of the local government and receiving, on a yearly average, 20 tons, or less, of solid waste per day.

"Class IV landfill" means a landfill that is to receive only construction/demolition waste, yard waste, inert waste, dead animals, or upon meeting the requirements of Subsection R315-320-3(9)(c), materials derived from used tires but excluding inert demolition waste used as fill material.

"Class V landfill" means a commercial landfill which receives any nonhazardous solid waste for disposal. Class V landfill does not include a landfill that is solely under contract with a local government within the state to dispose of nonhazardous solid waste generated within the boundaries of the local government.

Mail to:
Dennis R. Downs, Director
Division of Solid and Hazardous Waste
P.O. Box 144880
Salt Lake City, Utah 84114-4880

Date Received:_____

SOLID WASTE POST-CLOSURE CARE ANNUAL REPORT

Part I - General Information

Administrative Information Please enter the information requested in the space provided below, including the name, title and telephone number of a contact person who can answer questions regarding this report.

Calendar or fiscal year of report: _____

If fiscal year, please provide period covered: From _____ To _____

Facility Name: _____

Mailing Address: _____

(Number & Street, Box and/or Route)

City:_____, State:_____ Zip Code:_____

Owner

Name:_____ Phone No.:(___)_____

Mailing Address:_____

(Number & Street, Box and/or Route)

City:_____, State:_____ Zip Code:_____

Post-Closure Care Provider

Name:_____ Phone No.:(___)_____

(if different from Owner above)

Mailing Address:_____

(Number & Street, Box and/or Route)

City:_____, State:_____ Zip Code:_____

Permit Information To insure complete records and proper filing please complete the following.

Permit No.:_____ Permit Date:_____

(If permit was issued after 1988) (Date permit was signed)

Post-Closure Care Status

Date Post-Closure care began _____

(The date post-closure care began is the date that the landfill final cover construction was completed)

Other Required Reports

Cover inspection report indication inspection dates results and actions taken

Financial assurance report enclosed: Yes ____ No ____

(If "NO" please provide date when report will be completed)

Has financial assurance been recalculate for inflation or other changes?

Yes ____ No ____ Not Required ____

(If "NO" when will this recalculation be made)

Facilities using "Local Government Financial Test" must provide the information required in R315-309-3(7)(d)

Ground Water Monitoring report, including statistical analysis, enclosed if applicable:
Yes ____ No ____ Not Required ____

(If "NO" please provide date when report will be completed)

Explosive Gas Monitoring report enclosed if applicable:
Yes ____ No ____ Not Required ____

(If "NO" please provide date when report will be completed)

Signature:_____ Date:_____

F:\SHW\SPB\JRBOHN\WP\FORMS\1998 postclosure care report form

APPENDIX E
PROOF OF OWNERSHIP

STATE OF UTAH PATENT NO. 19253

WHEREAS, CHEVRON USA PRODUCTION COMPANY, A DIVISION OF CHEVRON USA, INC., P.O. Box 36366, Houston, TX 77236, heretofore purchased from the State of Utah, the lands hereinafter described, pursuant to the laws of said State,

AND WHEREAS, the said CHEVRON USA PRODUCTION COMPANY, A DIVISION OF CHEVRON USA, INC., has paid for said lands, pursuant to the conditions of said sale, and the laws of the State duly enacted in relation thereto, the sum of Sixty-four Thousand Dollars and No Cents ($64,000.00), and all legal interest thereon accrued, as fully appears by the certificate of the proper officer, now on file in the office of the Lieutenant Governor of the State of Utah;

NOW THEREFORE I, MICHAEL O. LEAVITT, Governor, by virtue of the power and authority vested in me by the laws of the State of Utah, do issue this PATENT, in the name and by the authority of the State of Utah, hereby granting and confirming unto the said CHEVRON USA PRODUCTION COMPANY, A DIVISION OF CHEVRON USA, INC., and to its successors and assigns forever, the following tract or parcel of land, situated in the County of Uintah, State of Utah, to-wit:

Township 7 South, Range 23 East, SLB&M
Section 16: All

Containing 640.00 acres, more or less

TO HAVE AND TO HOLD the above described and granted premises unto the said CHEVRON USA PRODUCTION COMPANY, A DIVISION OF CHEVRON USA, INC., and to its successors and assigns forever,

Excepting and reserving to the Trust Lands Administration those lands within the exterior boundaries of those certain paleontological sites designated by the Utah State Paleontologist as vertebrate fossil localities 42Un1169v through 42Un1201v, and any other exposures that may be discovered hereafter; together with a right of access across the subject lands to these localities; together with all specimens and paleontological deposits contained within each locality, the localities being more specifically described in Exhibit "A" to this Patent, which exhibit is incorporated by reference herein; and further provided that such reservation of lands shall terminate, and title to the site vest in the

Chevron USA Production Company, its successors and assigns, or its successors and assigns, upon recorded certification by the State of Utah that appropriate recovery of paleontological data and specimens from the localities has occurred; or such time as the State of Utah may terminate this reservation of title ownership to the localities, replacing this reservation with restrictive covenants running with the land. Chevron USA Production Company, its successors and assigns, shall comply with the Utah Geological Survey Act, U.C.A. § 63-73-11 et seq. and § 63-73-19 (1995), or any amending or replacing legislation for all land within the parcel below the 5600 foot contour, as if the Trust Lands Administration held title to all such land, including:

A. Prior to commencing any undertaking (as defined in Trust Lands Administration rule R850-60-200), development or change in use of the land below the 5600 contour, Chevron USA Production Company, its successors and assigns, shall consult with the Trust Lands Administration and request approval for the proposed undertaking, development or change in use.

B. Chevron USA Production Company, its successors and assigns shall, if so directed by the Trust Lands Administration, provide for a paleontological inventory of the undertaking's area of potential effects, and preserve or recover the paleontological data contained in the localities as directed by the Trust Lands Administration.

C. Chevron USA Production Company, its successors and assigns, shall provide the Trust Lands Administration with all collections (i.e., specimens, unprocessed samples, notes and photographs) resulting from paleontological investigations at any of the localities and all subsequent data analyses.

Subject to a reservation to the State of all coal and other mineral deposits, along with the right for the State or other authorized persons to prospect for, mine, and remove the deposits as provided by Statute; also,

Subject to an easement across the property as may be necessary and reasonable to access lands administered by the School and Institutional Trust Lands Administration; also,

Subject to any valid, existing easement or right of way of any kind and any right, interest, reservation or exception appearing of record, and subject also to all rights of way for ditches, tunnels, and telephone and transmission lines that have been or may be constructed by authority of the United States as provided by Statute.

IN TESTIMONY WHEREOF, I have caused the great seal of the State of Utah to be hereunto affixed. Done at Salt Lake City, this twentieth day of April in the year of our Lord, one thousand nine hundred and ninety-nine, and of the independence of the United States of America the two hundred and twenty-third, and in the one hundred and fourth year of the State of Utah.

By the Governor:

Michael O. Leavitt

Olene S. Walker
Lieutenant Governor

David T. Terry, Director
School and Institutional
Trust Lands Administration

APPROVED AS TO FORM
Jan Graham
Attorney General

By _____
Special Assistant Attorney General

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Certificate of Sale No. 24665
Fund: School